

perceptible to the human body in its ordinary exposure to the atmosphere, and which depends upon the rapidity with which its own heat is carried off by the conducting power and currents of the atmosphere. To estimate this insensible cold, the author raised the thermometer to 120° , and then carried it into the open air. As soon as the mercury had fallen to 100° , the rate of its further descent, during every $10''$, was noted for half a minute, in different states of the atmosphere in regard to wind and moisture. These experiments, which are given in the form of tables, show the powerful effect of wind in increasing the rate of cooling, and consequently of exciting the sensation of cold in the human body, independent of any actual low temperature of the atmosphere.

On the Transit Instrument of the Cambridge Observatory; being a Supplement to a former Paper. By Robert Woodhouse, Esq. Plumian Professor of Astronomy in the University of Cambridge. Read January 19, 1826. [Phil. Trans. 1826, Part II. p. 75.]

This communication is intended merely as a supplement to a former paper on the same subject, printed in the Transactions of this Society, in which a deviation of the transit instrument from the plane of the meridian, arising from a difference of expansion in its braces, was pointed out. As no instance was there given of the magnitude of this deviation, one is here adduced in which the inferior passage of the pole star was found to have been retarded twenty-five seconds in consequence of the sun having been allowed to shine on the upper western brace, the object-glass of the transit being towards the zenith. The author adds, that in consequence of the detection of this source of inequality, he now views with great suspicion all his previous observations of solar transits.

Account of a Series of Observations, made in the Summer of the Year 1825, for the purpose of determining the Difference of Meridians of the Royal Observatories of Greenwich and Paris; drawn up by J. F. W. Herschel, Esq. M.A. Sec. R.S. Communicated by the Board of Longitude. Read January 12, 1826. [Phil. Trans. 1826, Part II. p. 77.]

The operations, of which this paper contains an account, were undertaken by the British Board of Longitude, in conjunction with the French Ministry of War, at the invitation of the latter, for the purpose of connecting the Royal Observatories of Greenwich and Paris, by means of signals contemporaneously observed along a chain of stations established for that purpose between them. The signals employed were the explosions of proper quantities of gunpowder, elevated to a great height in the air by rockets fired at three stations, two on the French, and one on the English side of the Channel, and observed at the observatories, and at two stations intermediate between those at which they were fixed. These two stations

were Lignieres on the French, and Fairlight Down, near Hastings, on the English side. The operations at the former were made by Captain Sabine and Colonel Bonne; those at the latter by Mr. Herschel and Mr. Largeau; thus securing two independent lines of communication, a British and a French, between the extreme stations, and observers at each station exchanging observations at the termination of the whole operation, which was continued for twelve nights, ten signals being made at each station per night; and though the whole of them could not be employed, it is stated that the final result, which makes the difference of longitude between the two observatories equal to $9^{\circ} 21''.6$, is not very likely to be found one tenth of a second in error, and extremely unlikely to prove erroneous to twice that amount.

The observations are then stated in detail; and the mode of combining them in the most impartial manner, so as to deduce from them the most advantageous result, is next investigated; and a general formula deduced applicable to all operations of the kind, and including all the necessary corrections. This formula is then applied to the actual observations, and the result above mentioned deduced. The two results deduced by considering separately the observations of the British and of the French observers, at the intermediate stations, exhibit a remarkable coincidence,—their difference amounting to only a single hundredth of a second.

Observations on the Poison of the Common Toad. By John Davy, M.D. F.R.S. Read December 22, 1825. [*Phil. Trans.* 1826, Part II. p. 127.]

After adverting to the correctness of the popular opinion respecting the poisonous nature of the toad, which the professed naturalist has generally rejected, the author proceeds to describe the seat of the poison, which is chiefly in follicles in the cutis vera, and which, on pressure, exude from it in the form of a thick yellowish fluid, which, on evaporation, yields a transparent residue, very acrid, and acting on the tongue like extract of aconite. It is neither acid nor alkaline; and since a chicken inoculated with it received no injury, it does not appear to be noxious when absorbed and carried into the circulation. Indeed, although it chiefly abounds in the integuments of the toad, the author also detected it in the bile, the urine, and in small quantity in the blood.

Dr. Davy thinks that the principal use of this poison is to defend the reptile against the attacks of carnivorous animals; he also remarks, that as it contains an inflammable substance, it may be considered as excrementitious; it may serve to carry off a portion of carbon from the blood, and thus be auxiliary to the function of the lungs. In support of this idea, the author observes that he finds each of the pulmonary arteries of the toad divided into two branches, one of which goes to the lung, and the other to the cutis, ramifying most abundantly where the largest venous follicles are situated, and